20670.20 1823001

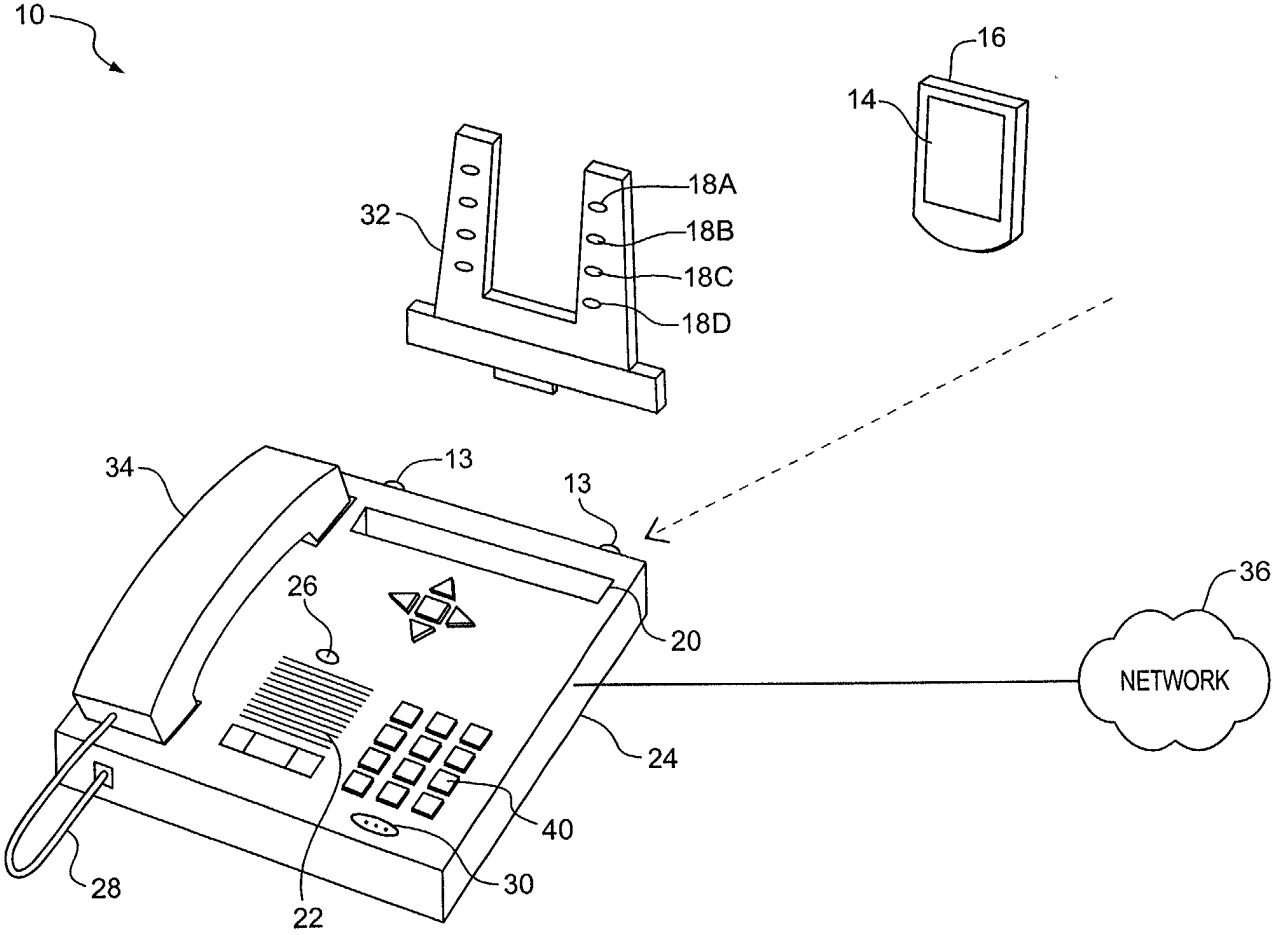


FIG. 1

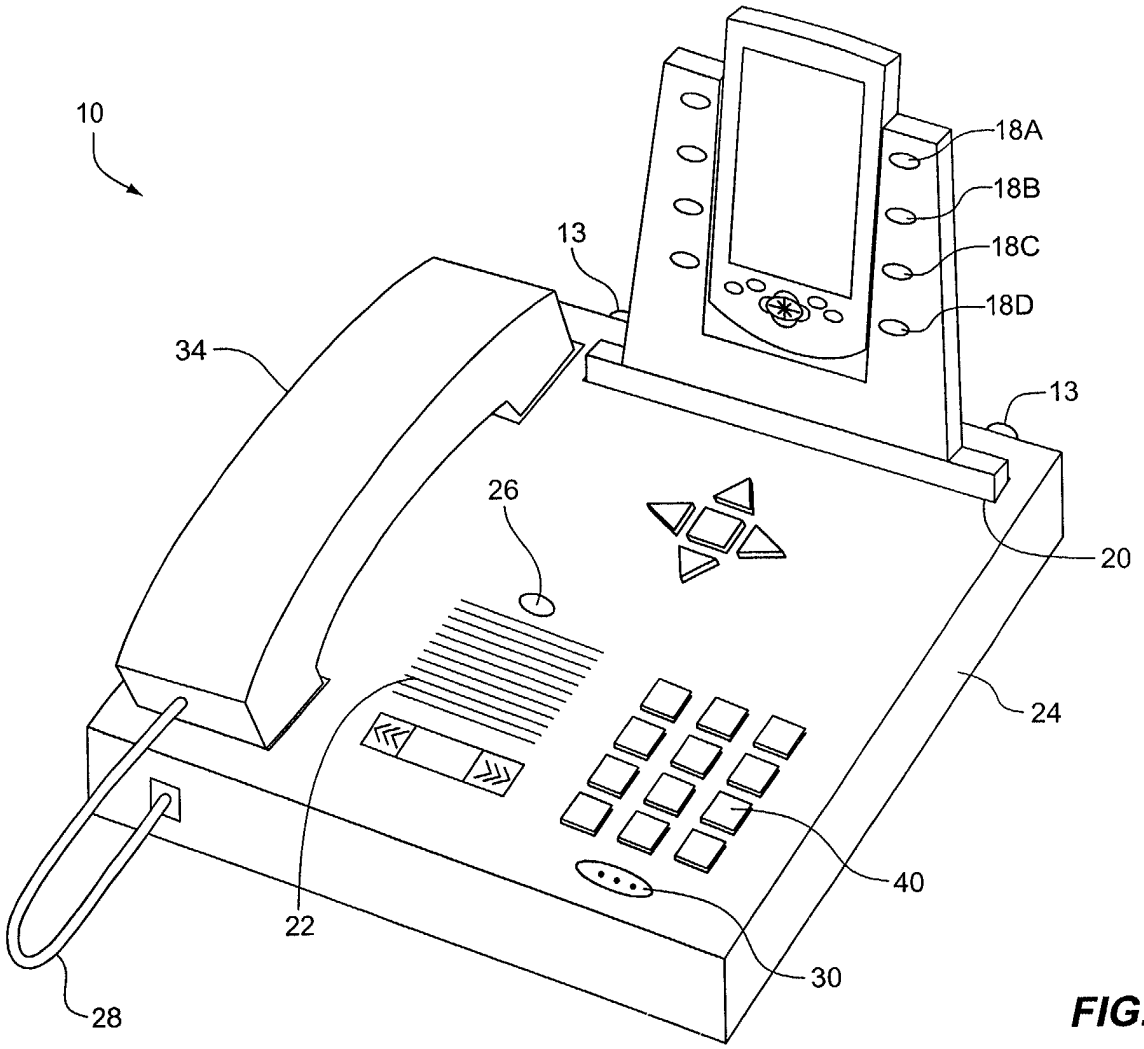


FIG. 2

FIG. 3A

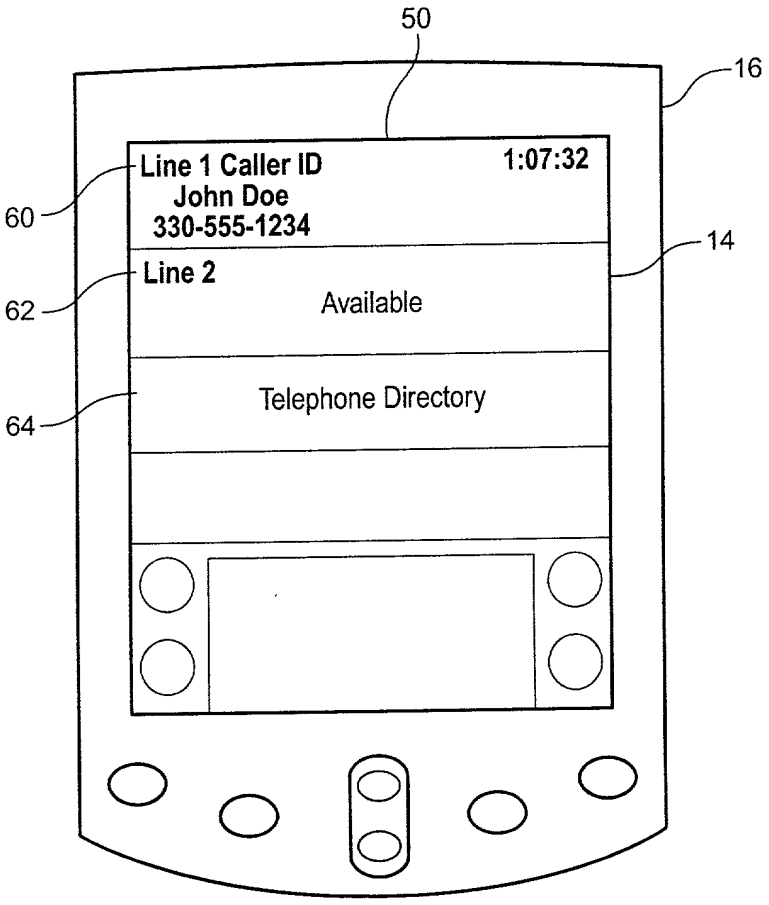
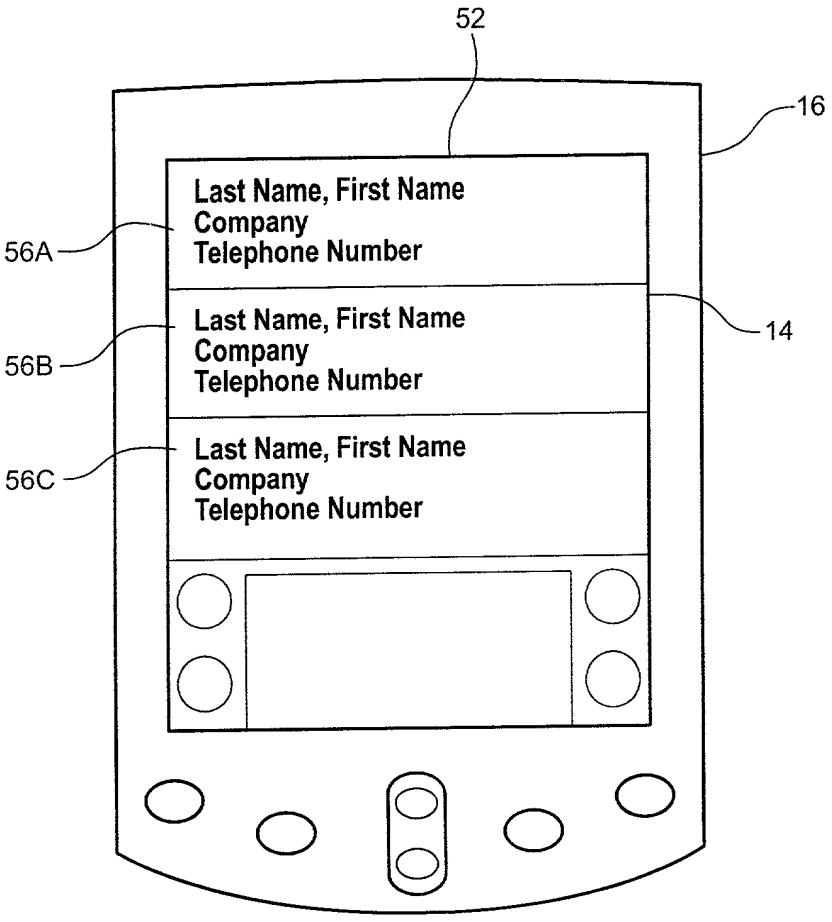

50
16
Line 1 Caller ID
John Doe
330-555-1234
1:07:32
60
14
Line 2
Available
62
Telephone Directory
64

FIG. 3B


52
16
Last Name, First Name
Company
Telephone Number
56A
Last Name, First Name
Company
Telephone Number
56B
14
Last Name, First Name
Company
Telephone Number
56C

20620.1329001

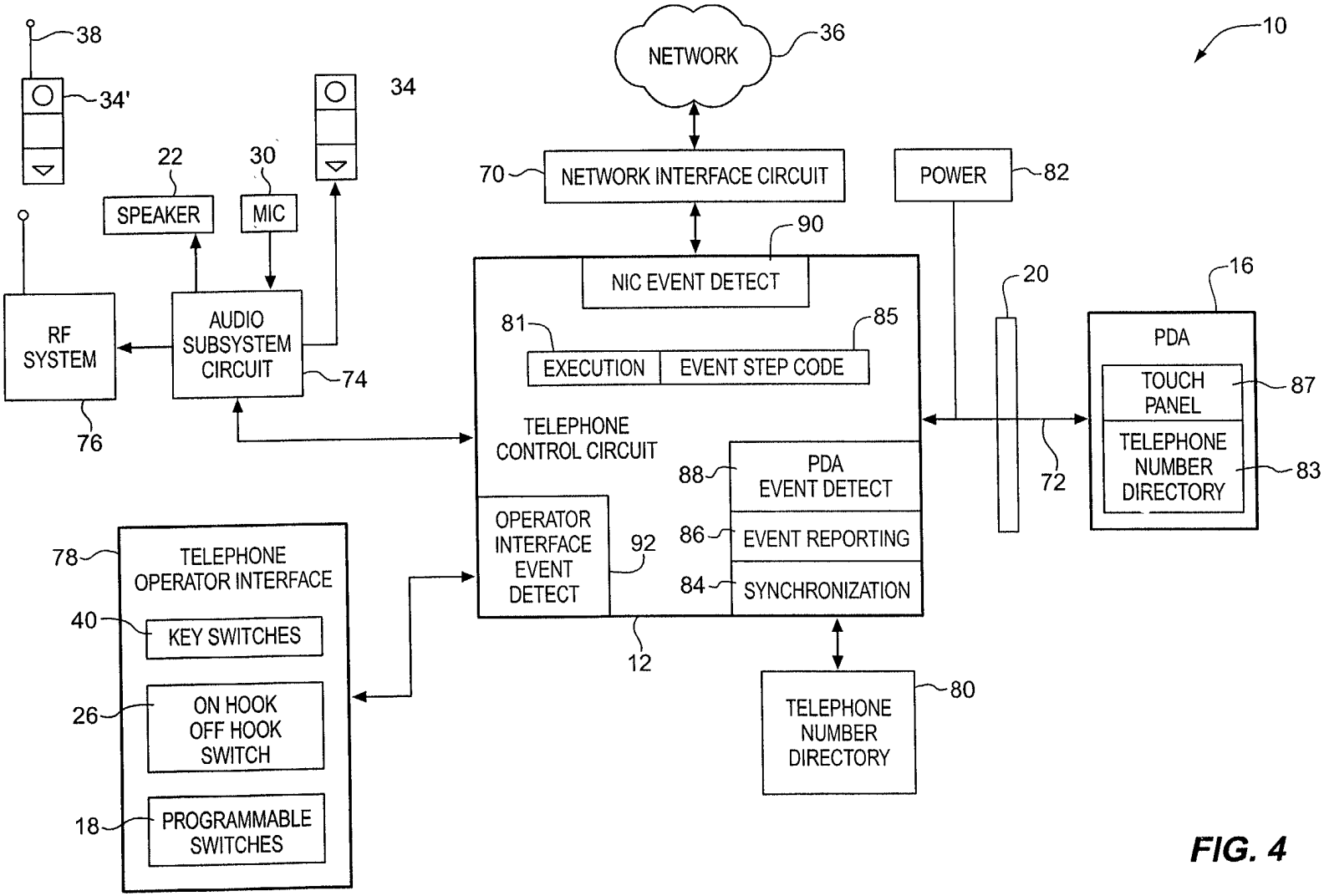


FIG. 4

	CURRENT STATE	OPERATOR INTERFACE EVENT	TELEPHONE NETWORK INTERFACE EVENT	PDA EVENT	PROCESSING STEPS
94	STANDBY	OFF HOOK EVENT		OFF HOOK EVENT	TRANSITION TO OFF HOOK DT STATE
	STANDBY		RINGING EVENT		TRANSITION TO RING STATE
	STANDBY	TELEPHONE DIRECTORY SELECTION EVENT		TELEPHONE DIRECTORY SELECTION EVENT	TRANSITION TO OFF HOOK DT STATE DIAL IN ACCORDANCE WITH SELECTED TELEPHONE NUMBER
96	RING	OFF HOOK EVENT		OFF HOOK EVENT	TRANSITION TO OFF HOOK DT STATE
	RING		RECEIVE CALLER ID		REPORT CALLER ID INFORMATION TO PDA
	RING		TERMINATION OF RING EVENT		TRANSITION TO STANDBY STATE
98	OFF HOOK CALL	ON HOOK EVENT		ON HOOK EVENT	TRANSITION TO STANDBY STATE
	OFF HOOK CALL		TERMINATION OF AUDIO STREAM		TRANSITION TO STANDBY STATE
	OFF HOOK CALL	KEY SWITCH ACTIVATION EVENT		KEY SWITCH ACTIVATION EVENT	GENERATE SCRATCH PAD TONE
95	OFF HOOK DT	ON HOOK EVENT		ON HOOK EVENT	TRANSITION TO STANDBY STATE
	OFF HOOK DT	KEY SWITCH ACTIVATION EVENT		KEY SWITCH ACTIVATION EVENT	GENERATE SCRATCH PAD TONES SETUP CALL WITH DIALED TELEPHONE NUMBER

FIG. 5

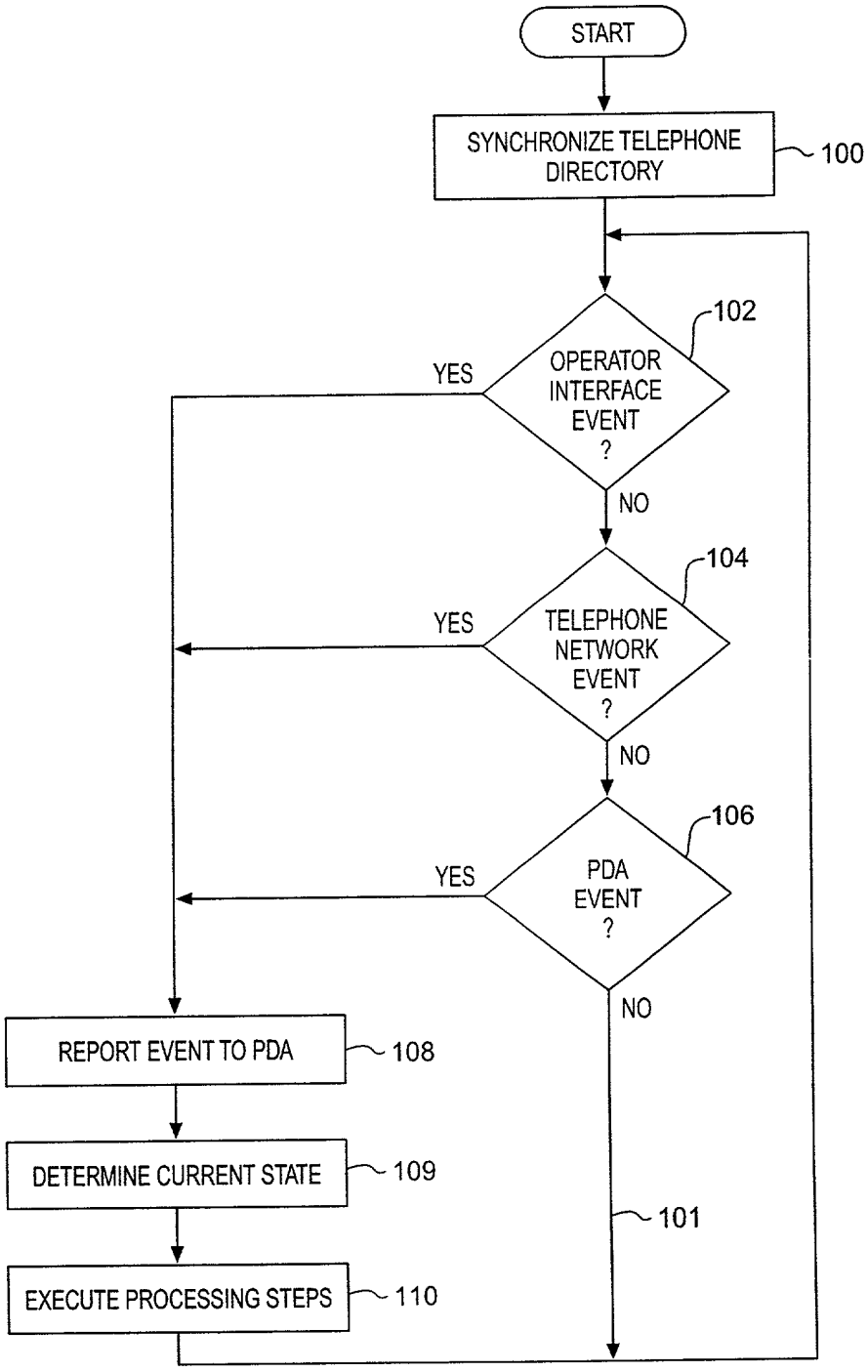

START
SYNCHRONIZE TELEPHONE DIRECTORY
100
102
OPERATOR INTERFACE EVENT ?
YES
NO
104
TELEPHONE NETWORK EVENT ?
YES
NO
106
PDA EVENT ?
YES
NO
REPORT EVENT TO PDA
108
DETERMINE CURRENT STATE
109
EXECUTE PROCESSING STEPS
110
101

FIG. 6

2661201 1220001

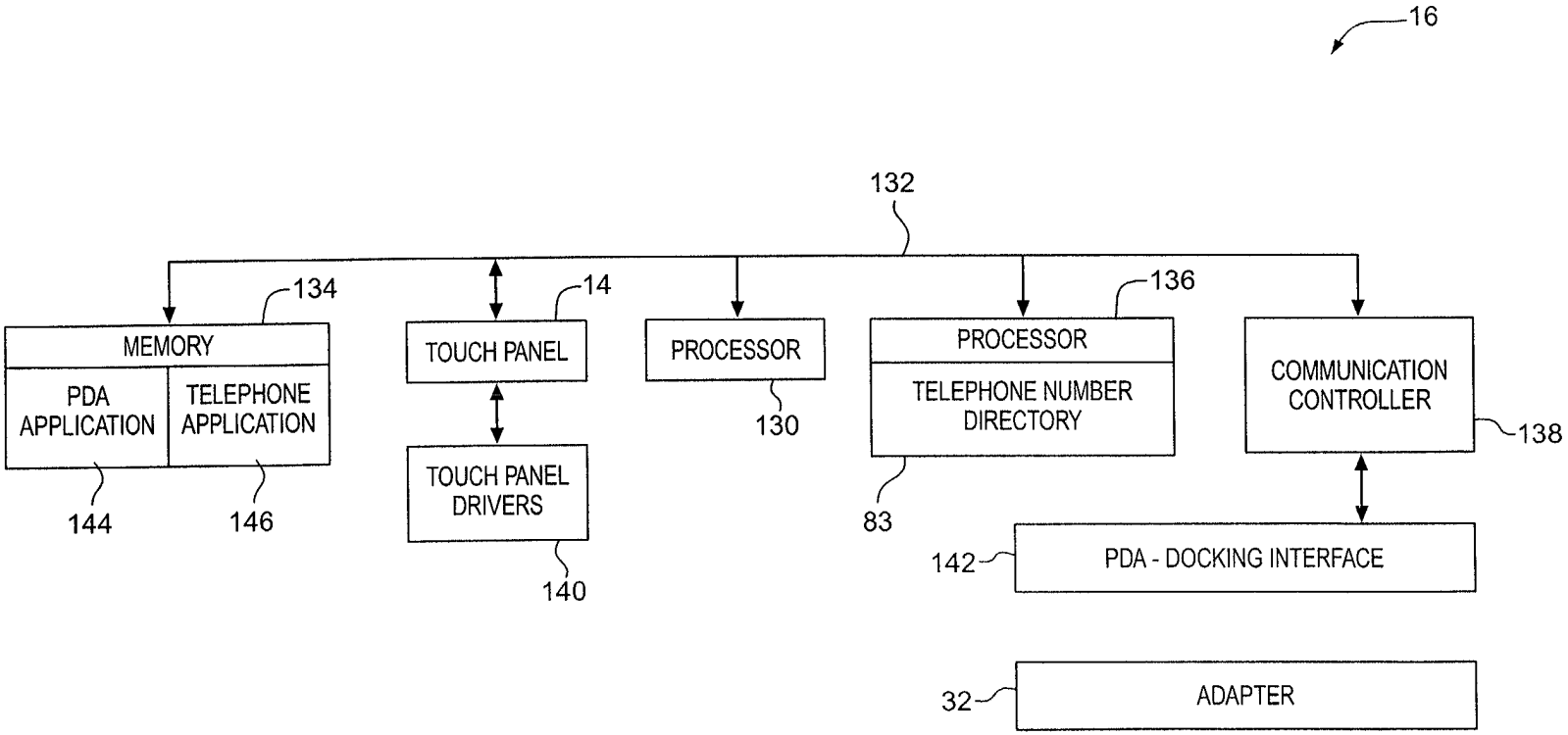


FIG. 7

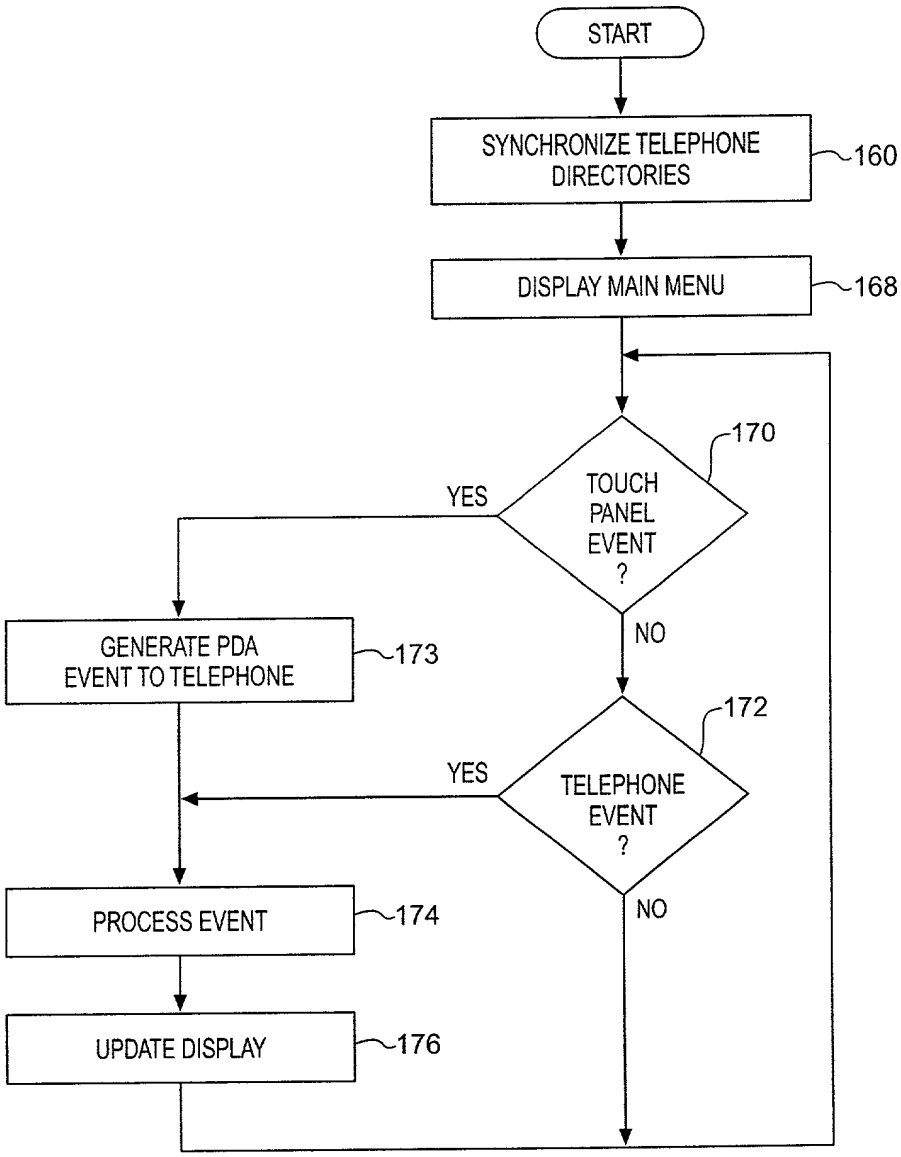

START
SYNCHRONIZE TELEPHONE DIRECTORIES
160
DISPLAY MAIN MENU
168
170
TOUCH PANEL EVENT ?
YES
NO
GENERATE PDA EVENT TO TELEPHONE
173
172
TELEPHONE EVENT ?
YES
NO
PROCESS EVENT
174
UPDATE DISPLAY
176

FIG. 8

START UP STATE - WAITING FOR EVENTS	
EVENTS	STEPS
OPEN SESSION REQUEST ON PREDETERMINED PORT	• ESTABLISH NEW LOCAL COMMUNICATION DEVICE STATE MACHINE • ESTABLISH SESSION • SEND LOGON CONTROL SCRIPTS • GET CSS INTERFACE CONFIGURATION • PROVIDE MAIN MENU DISPLAY CONTENT • PROVIDE MAIN MENU LAYOUT CONTROL • GO TO MAIN MENU STATE

300

FIG. 8A

304

MAIN MENU STATE - WAITING FOR EVENTS	
EVENTS	STEPS
MENU SELECTION	• GO TO SELECTED STATE
INITIALIZE WAN SUBSCRIBER DEVICE	• SEND ID EXTRACTION CONTROL SCRIPTS • GET SUBSCRIBER DEVICE ID • UPDATE NETWORK LOCATION TABLE • SYNCHRONIZE SUBSCRIBER CONTACT DIRECTORY • PROVIDE INITIAL DISPLAY CONTENT (MAIN MENU) • PROVIDE DISPLAY LAYOUT CONTROL • GO TO SUBSCRIBER DEVICE MAIN MENU STATE
HELP REQUEST	• SET UP AUDIO SESSION CHANNEL • TO AUDIO HELP CSS • GO TO AUDIO HELP STATE

302

308

310

FIG. 8B

316

SUBSCRIBER DEVICE MAIN MENU STATE - WAITING FOR EVENTS	
EVENTS	STEPS
312 MENU SELECTION	• GO TO SELECTED STATE
320 HELP REQUEST	• PROVIDE HELP MENU DISPLAY CONTENT • PROVIDE HELP MENU DISPLAY LAYOUT CONTROL • GO TO GRAPHIC HELP STATE
322 MESSAGE REQUEST	• GET MESSAGES FROM REMOTE SYSTEM • SORT MESSAGES BY TYPE • PROVIDE MESSAGE LIST CONTENT • PROVIDE MESSAGE LIST LAYOUT CONTROL • GO TO MESSAGE LIST STATE
324 AUDIO MESSAGE REQUEST	
314 DIRECTORY REQUEST	• PROVIDE DIRECTORY CONTENT AND LAYOUT CONTROL • TRANSITION TO SUBSCRIBER DIRECTORY STATE
326 SUBSCRIBER DEVICE REMOVE	• GO TO MAIN MENU STATE

FIG. 8C

328

MESSAGE LIST STATE - WAITING FOR EVENTS	
EVENTS	STEPS
334 AUDIO MESSAGE SELECT	• SEND AUDIO FILE TO CSS • PROVIDE PROCESSING SCRIPT TO OUTPUT FILE • GO TO AUDIO SESSION STATE
336 MESSAGE SELECT	• PROVIDE MESSAGE DISPLAY CONTENT • PROVIDE MESSAGE DISPLAY LAYOUT CONTROL • GO TO MESSAGE DISPLAY STATE
338 MESSAGE PRINT	• FORMAT MESSAGE CONTENT FOR PRINTER • SEND MESSAGE FILE TO PRINTER • GO TO MESSAGE LIST STATE
340 HELP REQUEST	• PROVIDE HELP MENU DISPLAY CONTENT AND DISPLAY LAYOUT CONTROL • GO TO GRAPHIC HELP STATE
342 SUBSCRIBER DEVICE REMOVE	• GO TO MAIN MENU STATE

FIG. 8D

370

SUBSCRIBER DIRECTORY STATE - WAITING FOR EVENTS	
EVENTS	STEPS
372 RECEIVE CONTACT SELECTION	• PROVIDE CONTROL SCRIPT TO SETUP AUDIO SESSION WITH CONTACT • PROVIDE AUDIO SESSION DISPLAY CONTENT AND LAYOUT CONTROL • TRANSITION TO AUDIO SESSION STATE
374 HELP REQUEST	• PROVIDE HELP MENU DISPLAY CONTENT AND DISPLAY LAYOUT CONTROL • GO TO GRAPHIC HELP STATE
378 SUBSCRIBER DEVICE REMOVE	• GO TO MAIN MENU STATE

FIG. 8E

344

BASE STATE - WAITING FOR EVENTS	
EVENTS	STEPS
354 TOUCH PANEL	• REPORT TOUCH PANEL EVENT TO CONTROLLER • RETURN TO BASE STATE
356 SUBSCRIBER INTERFACE CONTROL BUTTON	• REPORT BUTTON ACTIVATION TO CONTROLLER AND PVA • RETURN TO BASE STATE
358 RECEIVE DISPLAY CONTENT AND LAYOUT CONTROL MESSAGES	• UPDATE DISPLAY • RETURN TO BASE STATE
360 RECEIVE PROCESSING SCRIPT	• PROCESS SCRIPT • RETURN TO BASE STATE
362 WAN TELEPHONE SIGNAL	• GO TO WAN STATE
364 DETECT SUBSCRIBER DEVICE	• SEND INITIALIZE SUBSCRIBER MESSAGE • RETURN TO BASE STATE
350 RECEIVE MESSAGES FROM CONTROLLER DIRECTED TO SUBSCRIBER DEVICE	• RELAY MESSAGES TO SUBSCRIBER DEVICE
352 RECEIVE MESSAGES FROM SUBSCRIBER DEVICE DIRECTED TO CONTROLLERS	• RELAY MESSAGES TO CONTROLLER

346 START UP - WAITING FOR EVENTS	
EVENTS	STEPS
366 NETWORK CONNECTION	• SESSION REQUEST TO CONTROL UNIT
368 RECEIVE LOGIN SCRIPT	• PROCESS LOGON SCRIPT • PROVIDE INTERFACE CONFIGURATION • GO TO BASE STATE

FIG. 9

380

STANDBY STATE - WAITING FOR EVENTS	
EVENTS	STEPS
388 AUDIO SESSION SIGNAL FROM PACKET VOICE GATEWAY	• TRANSITION TO CALL SIGNALING STATE • REPORT STATE TRANSITION TO CSS APPLICATION
390 SUBSCRIBER INTERFACE CONTROL (OFF HOOK)	• TRANSITION TO OFF HOOK STATE • REPORT STATE TRANSITION TO CSS APPLICATION
392 SESSION SETUP EVENT FROM CSS APPLICATION	• SEND CALL SIGNALING MESSAGE TO GATEWAY • TRANSITION TO CALL SIGNALING STATE • REPORT TRANSITION TO CSS

382

CALL SIGNALING STATE - WAITING FOR EVENTS	
EVENTS	STEPS
394 ON HOOK EVENT	• RETURN TO STANDBY STATE • REPORT STATE TRANSITION TO CSS APPLICATION
396 TERMINATION OF SIGNALING	• RETURN TO STANDBY STATE • REPORT STATE TRANSITION TO CSS APPLICATION
398 READY FOR AUDIO SESSION	• TRANSITION TO AUDIO SESSION STATE • REPORT STATE TRANSITION TO CSS APPLICATION

FIG. 10A

384

OFF HOOK STATE - WAITING FOR EVENTS	
EVENTS	STEPS
400 SUBSCRIBER INTERFACE CONTROL (KEY PAD ACTIVATION) FROM CSS APPLICATION	• GENERATE DTMF TONE
402 VALIDATION OF NUMBER SEQUENCE	• SEND CALL SIGNALING MESSAGES TO GATEWAY • TRANSITION TO CALL SIGNALING STATE • REPORT TRANSITION TO CSS APPLICATION
404 SUBSCRIBER INTERFACE CONTROL (ON HOOK)	• RETURN TO STANDBY STATE

386

AUDIO SESSION STATE - WAITING FOR EVENTS	
EVENTS	STEPS
406 TERMINATION OF AUDIO SESSION	• RETURN TO OFF HOOK STATE
408 SUBSCRIBER INTERFACE CONTROL (KEY PAD ACTIVATION)	• GENERATE DTMF TONE
410 SUBSCRIBER INTERFACE CONTROL (ON HOOK) FROM CSS APPLICATION	• RETURN TO STANDBY STATE

FIG. 10B